COLLEGE OF AGRICULTURE AND HOME ECONOMICS
AGRICULTURAL SCIENCE CENTER AT CLOVIS

The New Mexico Dairy Industry[1]

1. The New Mexico Dairy Industry in the United States

The dairy industry in New Mexico is a top contributor to national milk production. New Mexico is the seventh largest milk producing state, providing 4% of the 177 billion pounds of milk produced annually in the United States (National Agricultural Statistical Service, NASS). The 33% growth rate in New Mexico's milk production, during the last five years, ranks fourth in the nation, after Kansas, Idaho, and Oregon. During this last five years, national milk production increased only 5.6%, because many states had decreasing trends (Table 1).

Table 1. Top five states in percentage of change in milk production from 2001 to 2006.

Rank	State	% Change	Region	State	% Change	Region
1	Kansas	+47.80%	West	Hawaii	-40.20%	West
2	Idaho	+40.70%	West	Arkansas	-38.80%	Southeast
3	Oregon	+39.30%	West	Louisiana	-38.00%	Southeast
4	New Mexico	+32.80%	West	Alabama	-35.60%	Southeast
5	Indiana	+30.90%	Midwest	Rhode Island	-33.70%	Northeast

Of the four major milk production areas of the United States, only the West showed an overall increase in production (17.6%), while the Midwest, Northeast, and Southeast showed an overall decrease in milk production in the last five years (Figure 1). Most of the states with increasing production trends are in the West, while the Southeast has most of the states with decreasing production.

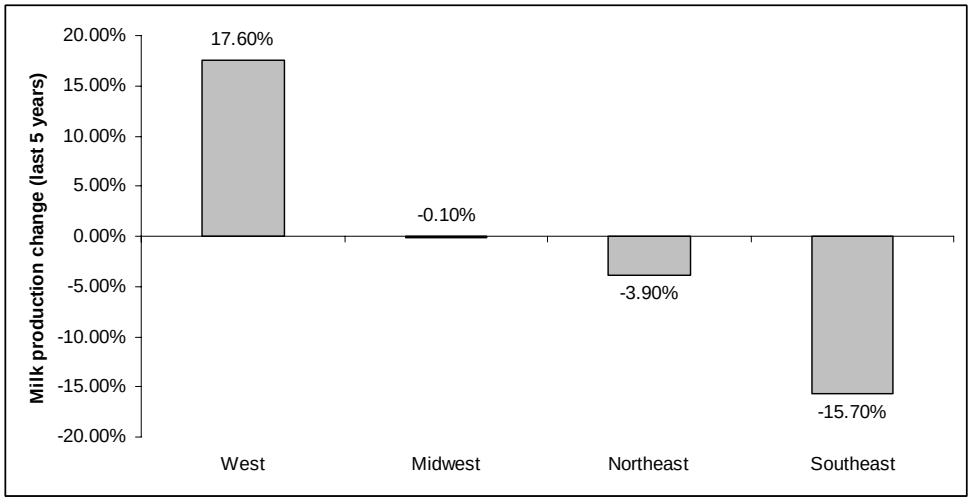

Figure 1. Growth rate of milk production in the United States, by region, 2001-2006.

[1] Victor E. Cabrera, Extension Dairy Specialist, NMSU Agricultural Science Center at Clovis. Document available at: http://dairy.nmsu.edu

New Mexico also ranks 7th in the nation in total number of milk cows with 340,000 cows, which has increased by 30% in the last five years (2001-2006). The number of cows in the nation decreased 2% during this same time period. In terms of milk productivity, New Mexico ranks eight in the nation with an average production of 21,192 lbs/cow/year (NASS). Only two states in the nation, California and Idaho rank above New Mexico when comparing both parameters together: total milk production and productivity per cow. New Mexico holds the first place in dairy farm size with an average of 1976 adult cows per farm.

2. The Dairy Industry in New Mexico

Dairy is the most important agricultural industry in New Mexico. Dairying produces more cash receipts than any other agricultural industry in the state. About 40% of the $2.6 billion in agricultural cash receipts comes from the dairy industry. Milk has been the number one cash commodity in New Mexico for the last four years, with receipts in excess of $1 billion in each of the last three years. Milk productivity, in pounds per cow per year, has jumped from 13,500 to 21,200 in the last 20 years while it has been accompanied by an expansion in the number of milking cows from 65,000 to 340,000. During the same period, overall state milk production experienced a dramatic 11 fold increase, reaching 6.9 billion pounds during 2005 and 7.1 billion during 2005/2006. According to the Agricultural Marketing Service (AMS) there are 172 dairy producers in New Mexico (Table 2).

Table 2. Dairy farms, milking cows, and milk production in New Mexico, 2005/2006.

County	Producers[2]	Milk Cows[3]	Productivity[4] (lb milk/cow/yr)	Milk[5] (million lb)
Chaves	39	90,000	21,034	1,921,536,905
Roosevelt	41	65,000	20,750	1,327,724,400
Curry	24	66,000	20,127	1,308,246,539
Doña Ana	24	53,000	21,020	1,116,865,913
Lea	14	25,000	19,545	504,387,238
Eddy	5	19,000	19,167	290,811,282
Valencia	8	4,000	21,000	189,014,684
Socorro	7	11,000	21,250	165,179,124
Sierra	3	5,000	21,250	95,319,111
Bernalillo	4	2,000	18,750	63,627,400
Others[1]	3	-	21,250	134,321,166
Total/Average	172	340,000	20,468	7,117,033,760

[1] Torrance and Luna counties

[2] Agricultural Marketing Service (AMS), April 2006

[3] National Agricultural Statistical Service (NASS), May 2006.

[4] Re-calculated from AMS and NASS data

[5] AMS from April 2005 to March 2006

There are two major zones of milk production in New Mexico (Figure 2). Both go from the central to the southern regions of the state. One is located in eastern New Mexico, while the other is located in central New Mexico. The eastern zone is the major production area, with more than 75% of the milk volume. Within the eastern zone,

Chaves, Roosevelt, and Curry counties, produce 65% of total milk. In the central area, Doña Ana in the southern part of the state produces 15% of the milk.

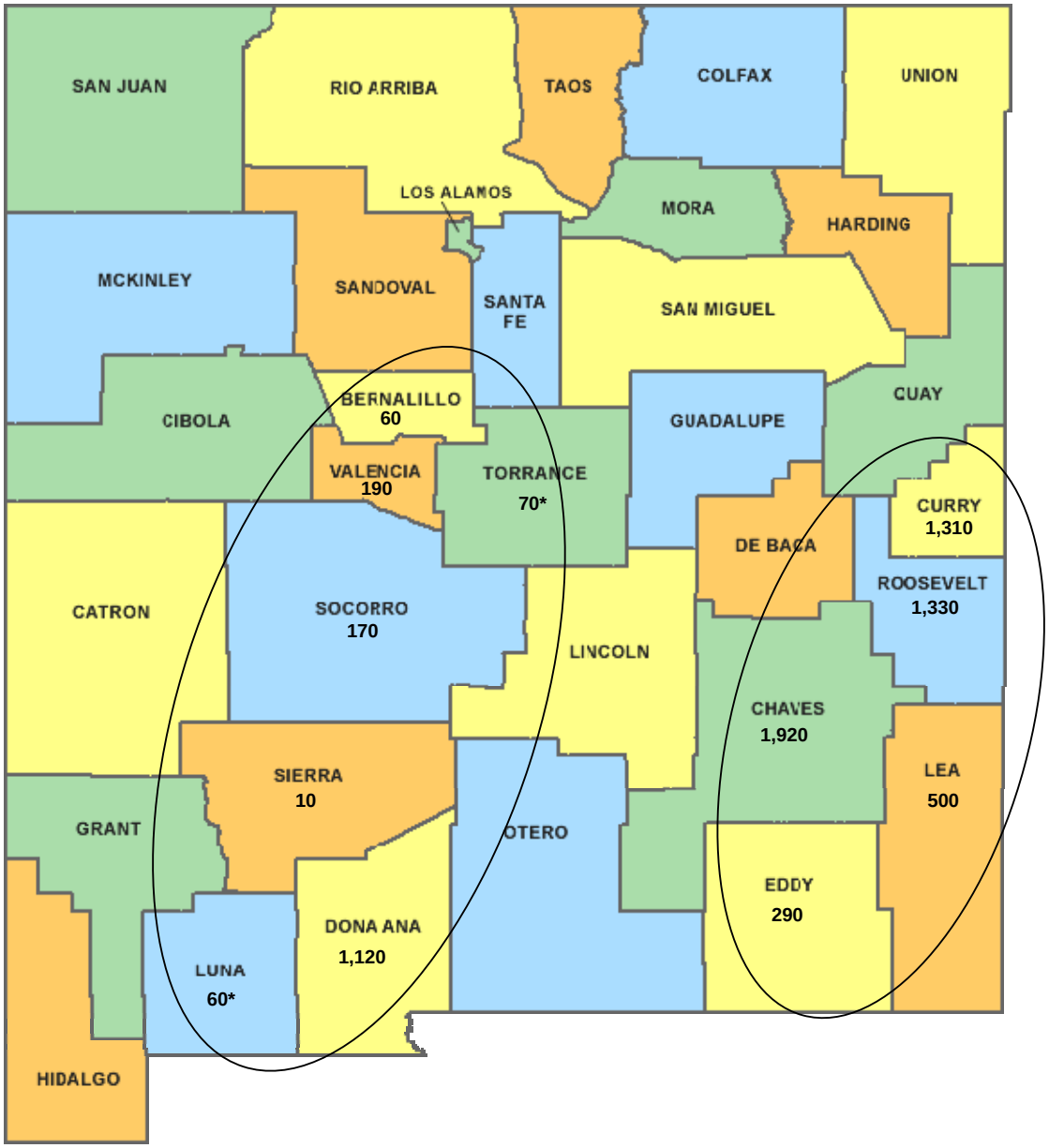

Figure 2. Milk production corridors in New Mexico.
Note: Milk production in million of lbs. *Luna and Torrance counties measured together.

An “average” dairy in New Mexico produces 42 million pounds of milk in a year, receives $6.4 million of gross income, and gives direct work to 17 people. Curry County tends to have the largest operations in the state, with an average over 2,750 cows per farm, while Valencia and Bernalillo have the smallest operations with an average of 500 cows per farm.

Milk production per cow is similar across counties. Bernalillo, which has the lowest average procution per cow, is only 8% below the statewide average; while Doña Ana, which has the highest average milk production per cow, is only 4% greater than the statewide average.

NASS records indicate there were 31,000 milking cows in New Mexico in 1975, during which time Doña Ana and Roosevelt were the most important milk producing counties, each one with about 18% of the state's cows. In 2006, 340,000 head of milking cows are reported to be in New Mexico with Chaves, Curry, Roosevelt, and Doña Ana counties holding more than 80% of the state's milking cows (Figure 4).

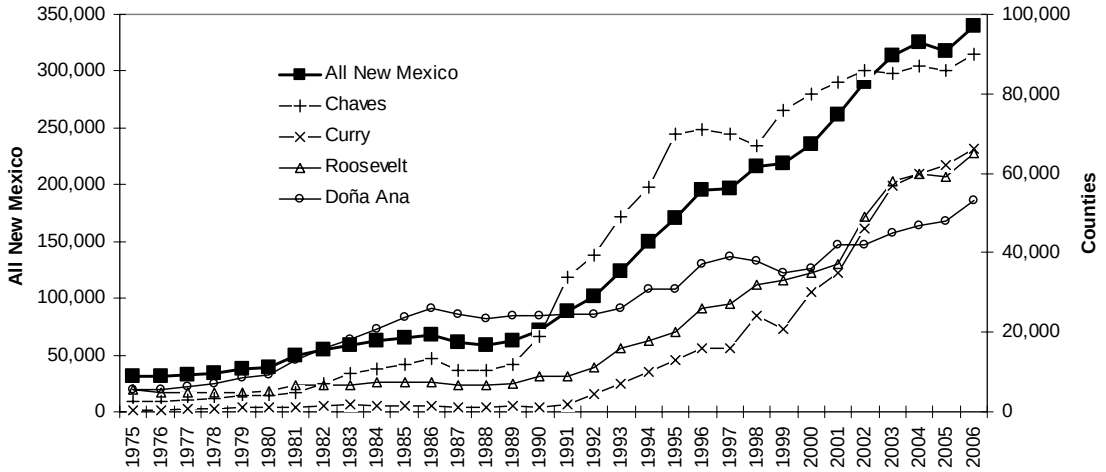

Figure 3. Number of milking cows in New Mexico and in the most important counties, 1975-2006.

Milk production in New Mexico has increased at a rate of approximately 2.5 million pounds per month over the past 14 years (Figure 4). Using this trend, milk production in New Mexico is expected to total 7.4 billion lbs. at the end of 2006. During 2004 and 2005, there were abnormalities in the milk production patterns that seem to return to normality in 2006.

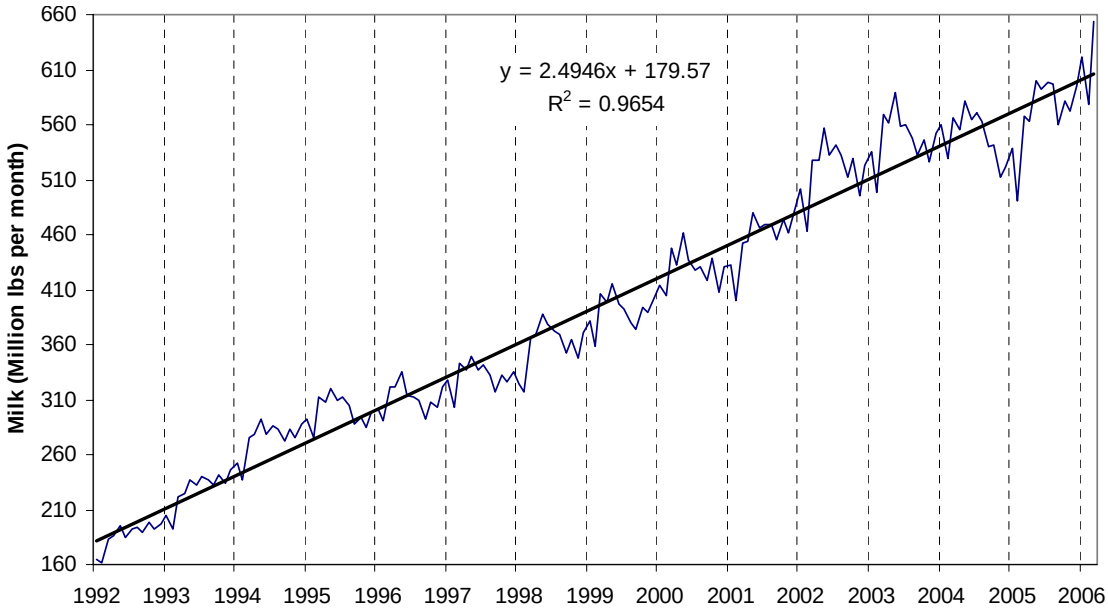

Figure 4. Trend of monthly milk production in New Mexico, 1992-2006. Source: Prepared with data from the Agricultural Marketing Service.

Seasonal variation in milk production can be as large as 20% between the highest month (May) and the lowest month (January). An increasing trend starts in January and continues through May, then begins a gradual decline until November. Thus, milk production is increasing in winter and spring, and declines in summer and levels out in fall. (Figure 5).

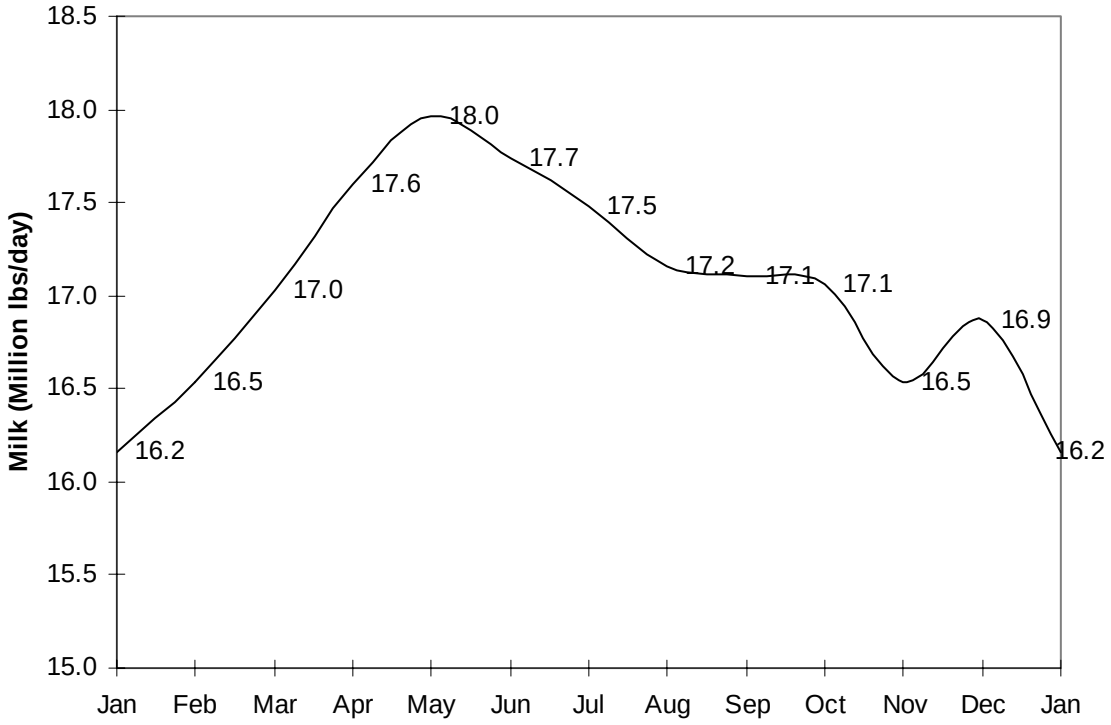

Figure 5. Seasonal milk production in New Mexico, 2003. Source: Data from Agricultural Marketing Service, USDA.

3. Economic Impact of the Dairy Industry to New Mexico

The New Mexico dairy industry generates "direct economic impacts" because of its activity of direct purchase of feedstuffs, labor and other inputs and from the direct sales of milk, animals and other outputs. The industry also generates "indirect economic impacts" through the industries that provide associated goods and services to dairy farms, as well as "induced economic impacts" due to the expenditure of income earned in the "direct" and "indirect" activities, and "value added" impacts coming from the economic returns to the primary factors of production as land, labor, and capital.

Indirect, induced, and value added impacts can be calculated using "multipliers." Multipliers are coefficients expressed as equivalent dollars of sales and can be generated by using input-output financial models such as IMPLAN. Due to geographic proximity and similarity in conditions, this analysis used multipliers that had been generated for the Colorado dairy industry by Seidl and Weiler using IMPLAN. These multipliers were

$0.4286 for indirect economic impacts and $0.5193 for induced economic impacts. Whereas the value-added impacts were $0.1707, $0.2438, and $0.3057 to direct, indirect, and induced impacts, respectively.

Table 3 shows the estimated economic impact of the dairy industry on the New Mexico economy. Assuming that animal sales from dairy farms are equivalent to 5% of the revenue coming from milk sales, the direct impact of dairies to New Mexico economy is estimated at $1.15 billion per year. The calculated indirect impact is $492 million, while induced impact is estimated at $596 million. Therefore, the combined economic impact of the New Mexico dairy industry is $2.24 billion. Considering the value-added impact of $498 million, the overall dairy industry economic impact to New Mexico economy is $2.7 billion a year.

Table 3. Economic Impact of dairy industry 2005/2006 ($/year), by county, in New Mexico.

County	Direct Impact*	Indirect Impact	Induced Impact	Value-Added	Total Impact
Chaves	310,107,233	132,911,960	161,038,686	134,568,767	738,626,647
Roosevelt	214,274,802	91,838,180	111,272,905	92,982,984	510,368,871
Curry	211,131,368	90,490,904	109,640,519	91,618,914	502,881,705
Doña Ana	180,245,405	77,253,181	93,601,439	78,216,176	429,316,201
Lea	81,400,534	34,888,269	42,271,298	35,323,167	193,883,268
Eddy	46,932,579	20,115,303	24,372,088	20,366,049	111,786,020
Valencia	30,504,135	13,074,072	15,840,797	13,237,046	72,656,050
Socorro	26,657,433	11,425,376	13,843,205	11,567,798	63,493,812
Sierra	15,383,075	6,593,186	7,988,431	6,675,373	36,640,064
Bernalillo	10,268,508	4,401,082	5,332,436	4,455,944	24,457,971
Others[1]	21,677,421	9,290,943	11,257,085	9,406,759	51,632,208
Total	1,148,582,493	492,282,457	596,458,889	498,418,977	2,735,742,816

[1] Torrance and Luna counties

*Assuming revenue from animal sales is 5% milk value. Direct Impact = Milk + Animal Sales

Under the same reasoning, the overall economic impact of an average dairy farm in New Mexico, milking 1,976 cows and producing 42 million pounds of milk, is $16.1 million, of which $6.8 million is direct impact, $2.9 million is indirect impact, $3.5 million is due to induced impact, and $2.9 million is due to value-added impact.

4. Employment Impact of the Dairy Industry to New Mexico

It is estimated that the dairy industry generates 14.9 jobs (FTE) for each $1 million of sales in dairy products. This is, for every $1 million in sales, 2.5 jobs are

generated directly 4.9 indirectly, and 7.45 induced. Based on this analysis, the dairy industry in New Mexico generates 2,886 direct full-time jobs, 5,713 indirect jobs, and 8,559 induced jobs (Table 4). Overall, the dairy industry in New Mexico generates 17,158 job.

Table 4. Employment generated by the dairy industry in New Mexico.

	Job Generation			Total Jobs
County	Direct	Indirect	Induced	FTE
Chaves	779	1543	2311	4632
Roosevelt	538	1066	1597	3201
Curry	530	1050	1573	3154
Doña Ana	453	897	1343	2693
Lea	205	405	607	1216
Eddy	118	233	350	701
Valencia	77	152	227	456
Socorro	67	133	199	398
Sierra	39	77	115	230
Bernalillo	26	51	77	153
Others[1]	54	108	162	324
Total	2886	5713	8559	17,158

[1] Torrance and Luna counties

*Assuming revenue from animal sales is 5% milk value. Direct Impact = Milk + Animal Sales

Results of this analysis indicated the "average" dairy farm in New Mexico gives direct work to 17 full-time employees, and generates 34 indirect, and 51 induced jobs. Thus, an "average" dairy in New Mexico creates 101 full-time jobs.

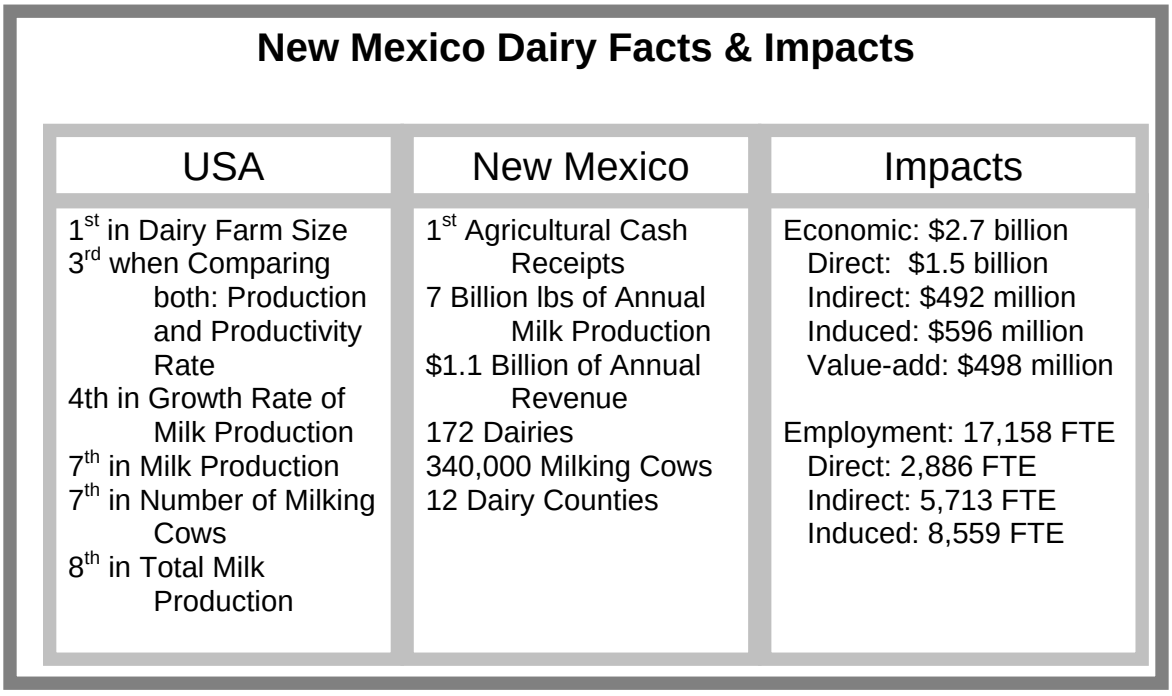

Figure 5. Summary of New Mexico dairy industry facts & impacts.

5. Conclusions

The dairy industry in New Mexico is the number one agricultural activity in the state with the greatest economic impact. Increasing trends in the number of milking cows, milk productivity, and overall milk production indicate the dairy industry will continue to provide a positive economic impact on the state of New Mexico in the future.